```
cttggcatta tgctctgtgc tgggggtatt cttgacagca ttcgtgatgg gagtgtttat 60
caaatttcgc aacaccccaa ttgttaaggc cacaaacaga gagctatcct acctcctcct 120
gttctcactc atctgctgtt tctccagttc cctcatcttc attggtgaac cccaggactg 180
gacatgccgt ctacgccagc ctgcattcgg gataagtttt gttctctgca tctcctgcat 240
cctggtaaaa actaaccgag tacttctagt gttcgaagcc aagatcccca ccagtctcca 300
tcgtaagtgg tgggggctaa acttgcagtt cctgttagtg ttcctgttca catttgtgca 360
agtgatgata tgtgtggtct ggctttacaa tgctcctccg gcgagctaca ggaaccatga 420
cattgatgag ataattttca ttacatgcaa tgagggctct atgatggcgc ttggcttcct 480
aattgggtac acatgcctgc tggcagccat atrcttcttc tttgcattta aatcacgaaa 540
actgccagag aactttactg aggctaagtt catcaccttc agcatgctca tctt       594
```

```
Leu Ala Leu Cys Ser Val Leu Gly Val Phe Leu Thr Ala Phe Val Met
 1               5                  10                  15
Gly Val Phe Ile Lys Phe Arg Asn Thr Pro Ile Val Lys Ala Thr Asn
            20                  25                  30
Arg Glu Leu Ser Tyr Leu Leu Leu Phe Ser Leu Ile Cys Cys Phe Ser
        35                  40                  45
Ser Ser Leu Ile Phe Ile Gly Glu Pro Gln Asp Trp Thr Cys Arg Leu
    50                  55                  60
Arg Gln Pro Ala Phe Gly Ile Ser Phe Val Leu Cys Ile Ser Cys Ile
65                  70                  75                  80
Leu Val Lys Thr Asn Arg Val Leu Leu Val Phe Glu Ala Lys Ile Pro
                85                  90                  95
Thr Ser Leu His Arg Lys Trp Trp Gly Leu Asn Leu Gln Phe Leu Leu
            100                 105                 110
Val Phe Leu Phe Thr Phe Val Gln Val Met Ile Cys Val Val Trp Leu
        115                 120                 125
Tyr Asn Ala Pro Pro Ala Ser Tyr Arg Asn His Asp Ile Xaa Asp Glu
    130                 135                 140
Ile Ile Phe Ile Thr Cys Asn Glu Gly Ser Met Met Ala Leu Gly Phe
145                 150                 155                 160
Leu Ile Gly Tyr Thr Cys Leu Leu Ala Ala Ile Xaa Phe Phe Phe Ala
                165                 170                 175
Phe Lys Ser Arg Lys Leu Pro Glu Asn Phe Thr Glu Ala Lys Phe Ile
            180                 185                 190
Thr Phe Ser Met Leu Ile Phe
        195
```

Xaa=any amino acid

FIG. 1

```
cttggcatta tgctctgtgc tgggggtatt cttgacagca ttcgtgatgg gagtgtttat 60
cagatttcgc aacaccccaa ttgttaaggc cacaaacaga gagctatcct acctcctcct 120
gttctcactc atctgctgtt tctccagctc cctcatcttc attggtgaac cccaggactg 180
gacatgccgt ctacgccagc ctgcattcgg gataagtttt gttctctgca tctcctgcat 240
cctggtcaaa actaaccgag tacttctagt gttcgaagcc aagatcccca ccagtctcca 300
tcgtaagtgg tgggggctaa acttgcagtt cctgttggtg ttcctgttca catttgtgca 360
agtgatgata tgtgtggtct ggctttacaa tgctcctccg gcgagctaca ggaaccatga 420
cattgatgag ataattttca ttacatgcaa tgagggctct atgatggcgc tcggcttcct 480
aattgggtac acatgcctgc tggcagccat atgcttcttc tttgcattta aatcacgaaa 540
actgccagag aactttaccg aggctaagtt catcaccttc agcatgctca tctt       594
```

```
Leu Ala Leu Cys Ser Val Leu Gly Val Phe Leu Thr Ala Phe Val Met
 1               5                  10                  15
Gly Val Phe Ile Arg Phe Arg Asn Thr Pro Ile Val Lys Ala Thr Asn
            20                  25                  30
Arg Glu Leu Ser Tyr Leu Leu Leu Phe Ser Leu Ile Cys Cys Phe Ser
        35                  40                  45
Ser Ser Leu Ile Phe Ile Gly Glu Pro Gln Asp Trp Thr Cys Arg Leu
    50                  55                  60
Arg Gln Pro Ala Phe Gly Ile Ser Phe Val Leu Cys Ile Ser Cys Ile
65                  70                  75                  80
Leu Val Lys Thr Asn Arg Val Leu Leu Val Phe Glu Ala Lys Ile Pro
                85                  90                  95
Thr Ser Leu His Arg Lys Trp Trp Gly Leu Asn Leu Gln Phe Leu Leu
            100                 105                 110
Val Phe Leu Phe Thr Phe Val Gln Val Met Ile Cys Val Val Trp Leu
        115                 120                 125
Tyr Asn Ala Pro Pro Ala Ser Tyr Arg Asn His Asp Ile Xaa Asp Glu
    130                 135                 140
Ile Ile Phe Ile Thr Cys Asn Glu Gly Ser Met Met Ala Leu Gly Phe
145                 150                 155                 160
Leu Ile Gly Tyr Thr Cys Leu Leu Ala Ala Ile Cys Phe Phe Phe Ala
                165                 170                 175
Phe Lys Ser Arg Lys Leu Pro Glu Asn Phe Thr Glu Ala Lys Phe Ile
            180                 185                 190
Thr Phe Ser Met Leu Ile Phe
        195

Xaa = Any amino acid
```

FIG. 2

```
ttggcattat gctctgtgct gggggtattc ttgacagtat tcgtgatggg agtgtttatc 60
agatttcgca acaccccaat tgttaaggcc acaaacagag agctatccta cctcctcctg 120
ttctcactta tctgctgttt ctccagctcc ctcatcttca ttggtgaacc ccaggactgg 180
acatgccgtc tacgccagcc tgcattcggg ataagttttg ttctctgcat ctcctgcatc 240
ctggtcaaaa ctaaccgagt acttctagtg ttcgaagcaa agatccccac cagtctccat 300
cgtaagtggt gggggctaaa cttgcagttc ctgttggtgt tcctgttcac atttgtgcaa 360
gtgatgatat gtgtggtctg gctttacaat gctcctccgg cgagctacag gaaccatgac 420
attgatgaga tcattttcat tacatgcaat gagggctcta tgatggcgct tggcttccta 480
attgggtaca catgcctgct ggcagccata tgcttcttct ttgcatttaa atcacgaaaa 540
ctgccagaga attttaccga ggctaagttc atcaccttca gcatgctcat ctt         593
```

```
Leu Ala Leu Cys Ser Val Leu Gly Val Phe Leu Thr Val Phe Val Met
 1               5                  10                  15
Gly Val Phe Ile Arg Phe Arg Asn Thr Pro Ile Val Lys Ala Thr Asn
            20                  25                  30
Arg Glu Leu Ser Tyr Leu Leu Leu Phe Ser Leu Ile Cys Cys Phe Ser
        35                  40                  45
Ser Ser Leu Ile Phe Ile Gly Glu Pro Gln Asp Trp Thr Cys Arg Leu
    50                  55                  60
Arg Gln Pro Ala Phe Gly Ile Ser Phe Val Leu Cys Ile Ser Cys Ile
65                  70                  75                  80
Leu Val Lys Thr Asn Arg Val Leu Leu Val Phe Glu Ala Lys Ile Pro
                85                  90                  95
Thr Ser Leu His Arg Lys Trp Trp Gly Leu Asn Leu Gln Phe Leu Leu
            100                 105                 110
Val Phe Leu Phe Thr Phe Val Gln Val Met Ile Cys Val Val Trp Leu
        115                 120                 125
Tyr Asn Ala Pro Pro Ala Ser Tyr Arg Asn His Asp Ile Xaa Asp Glu
    130                 135                 140
Ile Ile Phe Ile Thr Cys Asn Glu Gly Ser Met Met Ala Leu Gly Phe
145                 150                 155                 160
Leu Ile Gly Tyr Thr Cys Leu Leu Ala Ala Ile Cys Phe Phe Phe Ala
                165                 170                 175
Phe Lys Ser Arg Lys Leu Pro Glu Asn Phe Thr Glu Ala Lys Phe Ile
            180                 185                 190
Thr Phe Ser Met Leu Ile Phe
        195

Xaa = Any amino acid
```

FIG. 3

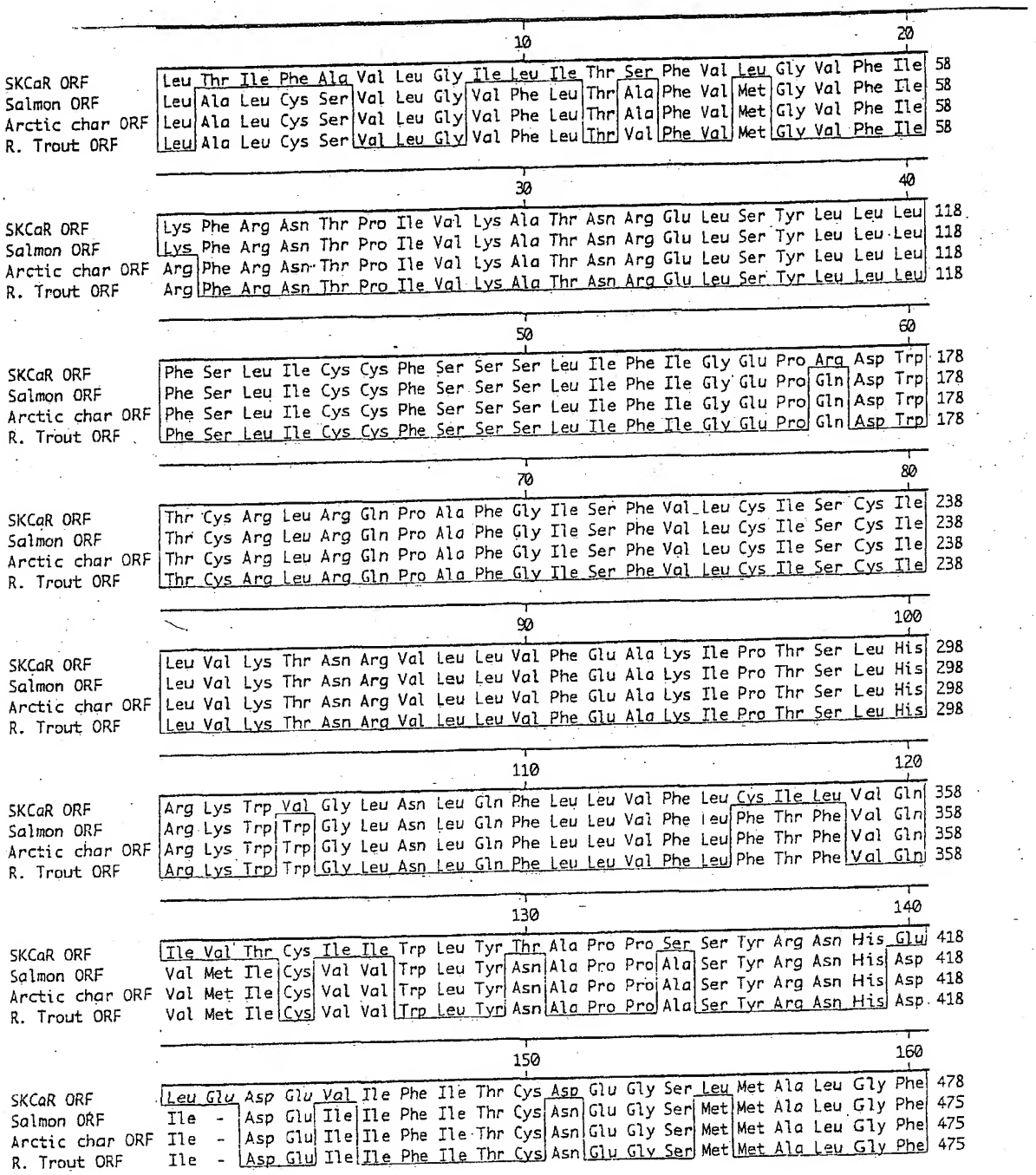

10
20
SKCaR ORF Leu Thr Ile Phe Ala Val Leu Gly Ile Leu Ile Thr Ser Phe Val Leu Gly Val Phe Ile 58
Salmon ORF Leu Ala Leu Cys Ser Val Leu Gly Val Phe Leu Thr Ala Phe Val Met Gly Val Phe Ile 58
Arctic char ORF Leu Ala Leu Cys Ser Val Leu Gly Val Phe Leu Thr Ala Phe Val Met Gly Val Phe Ile 58
R. Trout ORF Leu Ala Leu Cys Ser Val Leu Gly Val Phe Leu Thr Val Phe Val Met Gly Val Phe Ile 58
30
40
SKCaR ORF Lys Phe Arg Asn Thr Pro Ile Val Lys Ala Thr Asn Arg Glu Leu Ser Tyr Leu Leu Leu 118
Salmon ORF Lys Phe Arg Asn Thr Pro Ile Val Lys Ala Thr Asn Arg Glu Leu Ser Tyr Leu Leu Leu 118
Arctic char ORF Arg Phe Arg Asn Thr Pro Ile Val Lys Ala Thr Asn Arg Glu Leu Ser Tyr Leu Leu Leu 118
R. Trout ORF Arg Phe Arg Asn Thr Pro Ile Val Lys Ala Thr Asn Arg Glu Leu Ser Tyr Leu Leu Leu 118
50
60
SKCaR ORF Phe Ser Leu Ile Cys Cys Phe Ser Ser Ser Leu Ile Phe Ile Gly Glu Pro Arg Asp Trp 178
Salmon ORF Phe Ser Leu Ile Cys Cys Phe Ser Ser Ser Leu Ile Phe Ile Gly Glu Pro Gln Asp Trp 178
Arctic char ORF Phe Ser Leu Ile Cys Cys Phe Ser Ser Ser Leu Ile Phe Ile Gly Glu Pro Gln Asp Trp 178
R. Trout ORF Phe Ser Leu Ile Cys Cys Phe Ser Ser Ser Leu Ile Phe Ile Gly Glu Pro Gln Asp Trp 178
70
80
SKCaR ORF Thr Cys Arg Leu Arg Gln Pro Ala Phe Gly Ile Ser Phe Val Leu Cys Ile Ser Cys Ile 238
Salmon ORF Thr Cys Arg Leu Arg Gln Pro Ala Phe Gly Ile Ser Phe Val Leu Cys Ile Ser Cys Ile 238
Arctic char ORF Thr Cys Arg Leu Arg Gln Pro Ala Phe Gly Ile Ser Phe Val Leu Cys Ile Ser Cys Ile 238
R. Trout ORF Thr Cys Arg Leu Arg Gln Pro Ala Phe Gly Ile Ser Phe Val Leu Cys Ile Ser Cys Ile 238
90
100
SKCaR ORF Leu Val Lys Thr Asn Arg Val Leu Leu Val Phe Glu Ala Lys Ile Pro Thr Ser Leu His 298
Salmon ORF Leu Val Lys Thr Asn Arg Val Leu Leu Val Phe Glu Ala Lys Ile Pro Thr Ser Leu His 298
Arctic char ORF Leu Val Lys Thr Asn Arg Val Leu Leu Val Phe Glu Ala Lys Ile Pro Thr Ser Leu His 298
R. Trout ORF Leu Val Lys Thr Asn Arg Val Leu Leu Val Phe Glu Ala Lys Ile Pro Thr Ser Leu His 298
110
120
SKCaR ORF Arg Lys Trp Val Gly Leu Asn Leu Gln Phe Leu Leu Val Phe Leu Cys Ile Leu Val Gln 358
Salmon ORF Arg Lys Trp Trp Gly Leu Asn Leu Gln Phe Leu Leu Val Phe Leu Phe Thr Phe Val Gln 358
Arctic char ORF Arg Lys Trp Trp Gly Leu Asn Leu Gln Phe Leu Leu Val Phe Leu Phe Thr Phe Val Gln 358
R. Trout ORF Arg Lys Trp Trp Gly Leu Asn Leu Gln Phe Leu Leu Val Phe Leu Phe Thr Phe Val Gln 358
130
140
SKCaR ORF Ile Val Thr Cys Ile Ile Trp Leu Tyr Thr Ala Pro Pro Ser Ser Tyr Arg Asn His Glu 418
Salmon ORF Val Met Ile Cys Val Val Trp Leu Tyr Asn Ala Pro Pro Ala Ser Tyr Arg Asn His Asp 418
Arctic char ORF Val Met Ile Cys Val Val Trp Leu Tyr Asn Ala Pro Pro Ala Ser Tyr Arg Asn His Asp 418
R. Trout ORF Val Met Ile Cys Val Val Trp Leu Tyr Asn Ala Pro Pro Ala Ser Tyr Arg Asn His Asp 418
150
160
SKCaR ORF Leu Glu Asp Glu Val Ile Phe Ile Thr Cys Asp Glu Gly Ser Leu Met Ala Leu Gly Phe 478
Salmon ORF Ile - Asp Glu Ile Ile Phe Ile Thr Cys Asn Glu Gly Ser Met Met Ala Leu Gly Phe 475
Arctic char ORF Ile - Asp Glu Ile Ile Phe Ile Thr Cys Asn Glu Gly Ser Met Met Ala Leu Gly Phe 475
R. Trout ORF Ile - Asp Glu Ile Ile Phe Ile Thr Cys Asn Glu Gly Ser Met Met Ala Leu Gly Phe 475

FIG. 4A

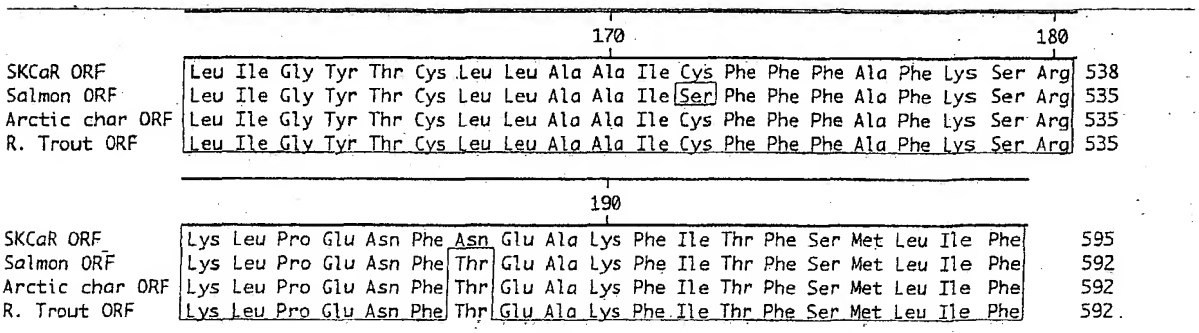

170
180
SKCaR ORF Leu Ile Gly Tyr Thr Cys Leu Leu Ala Ala Ile Cys Phe Phe Phe Ala Phe Lys Ser Arg 538
Salmon ORF Leu Ile Gly Tyr Thr Cys Leu Leu Ala Ala Ile Ser Phe Phe Phe Ala Phe Lys Ser Arg 535
Arctic char ORF Leu Ile Gly Tyr Thr Cys Leu Leu Ala Ala Ile Cys Phe Phe Phe Ala Phe Lys Ser Arg 535
R. Trout ORF Leu Ile Gly Tyr Thr Cys Leu Leu Ala Ala Ile Cys Phe Phe Phe Ala Phe Lys Ser Arg 535
190
SKCaR ORF Lys Leu Pro Glu Asn Phe Asn Glu Ala Lys Phe Ile Thr Phe Ser Met Leu Ile Phe 595
Salmon ORF Lys Leu Pro Glu Asn Phe Thr Glu Ala Lys Phe Ile Thr Phe Ser Met Leu Ile Phe 592
Arctic char ORF Lys Leu Pro Glu Asn Phe Thr Glu Ala Lys Phe Ile Thr Phe Ser Met Leu Ile Phe 592
R. Trout ORF Lys Leu Pro Glu Asn Phe Thr Glu Ala Lys Phe Ile Thr Phe Ser Met Leu Ile Phe 592
Decoration 'Decoration #1': Box residues that match SKCaR ORF exactly.

FIG. 4B

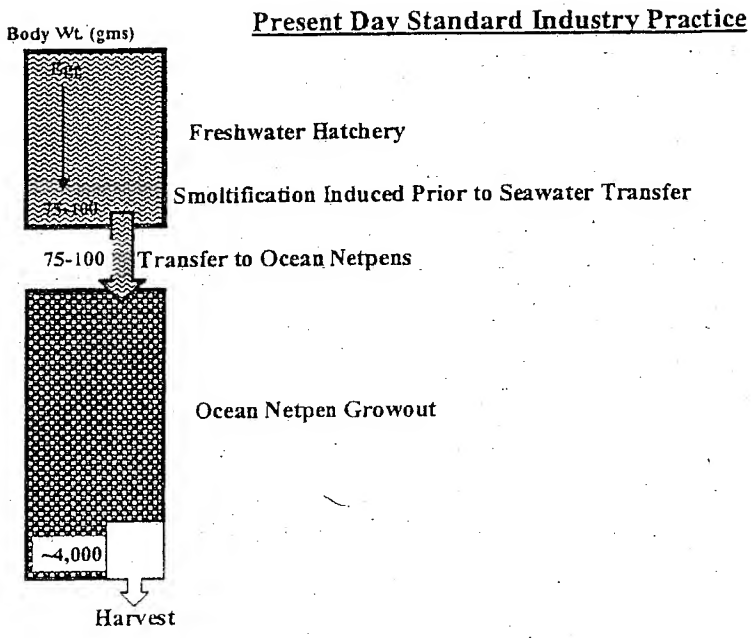

Present Day Standard Industry Practice
Body Wt (gms)
Freshwater Hatchery
Smoltification Induced Prior to Seawater Transfer
75-100
Transfer to Ocean Netpens
Ocean Netpen Growout
~4,000
Harvest

FIG. 5

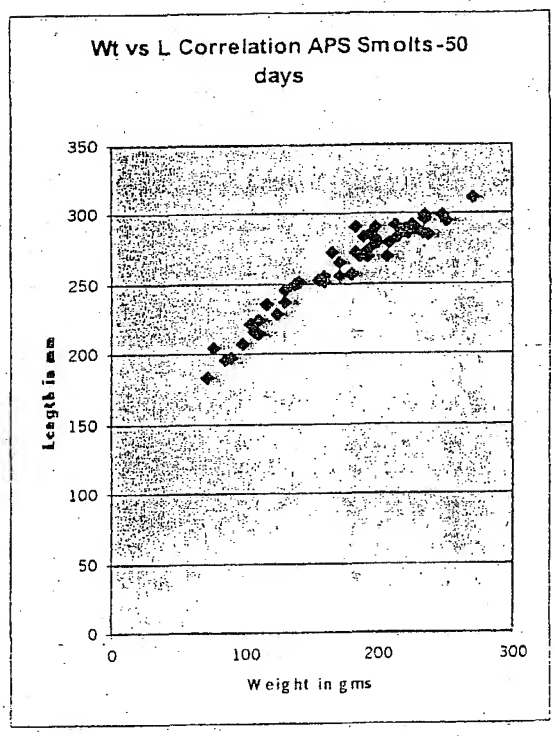

Wt vs L Correlation APS Smolts-50 days
Length in mm
350
300
250
200
150
100
50
0
0
100
200
300
Weight in gms

FIG. 6

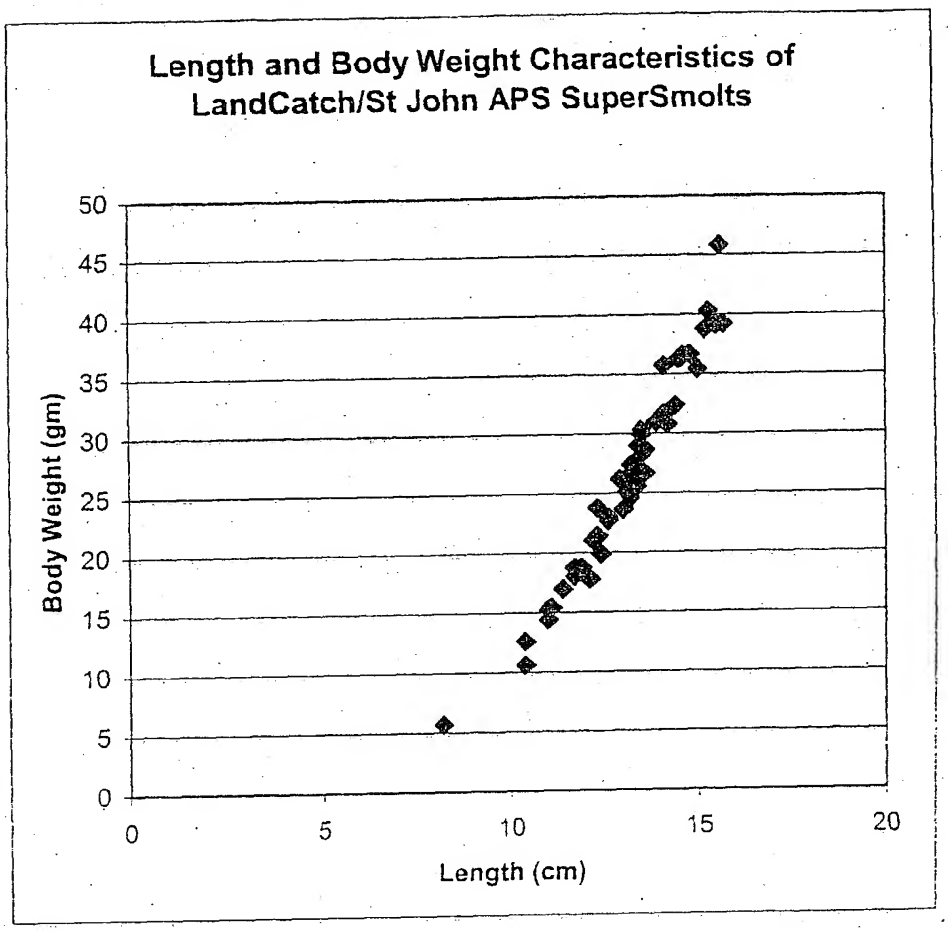

Length and Body Weight Characteristics of LandCatch/St John APS SuperSmolts
Body Weight (gm)
50
45
40
35
30
25
20
15
10
5
0
0
5
10
15
20
Length (cm)

FIG. 7

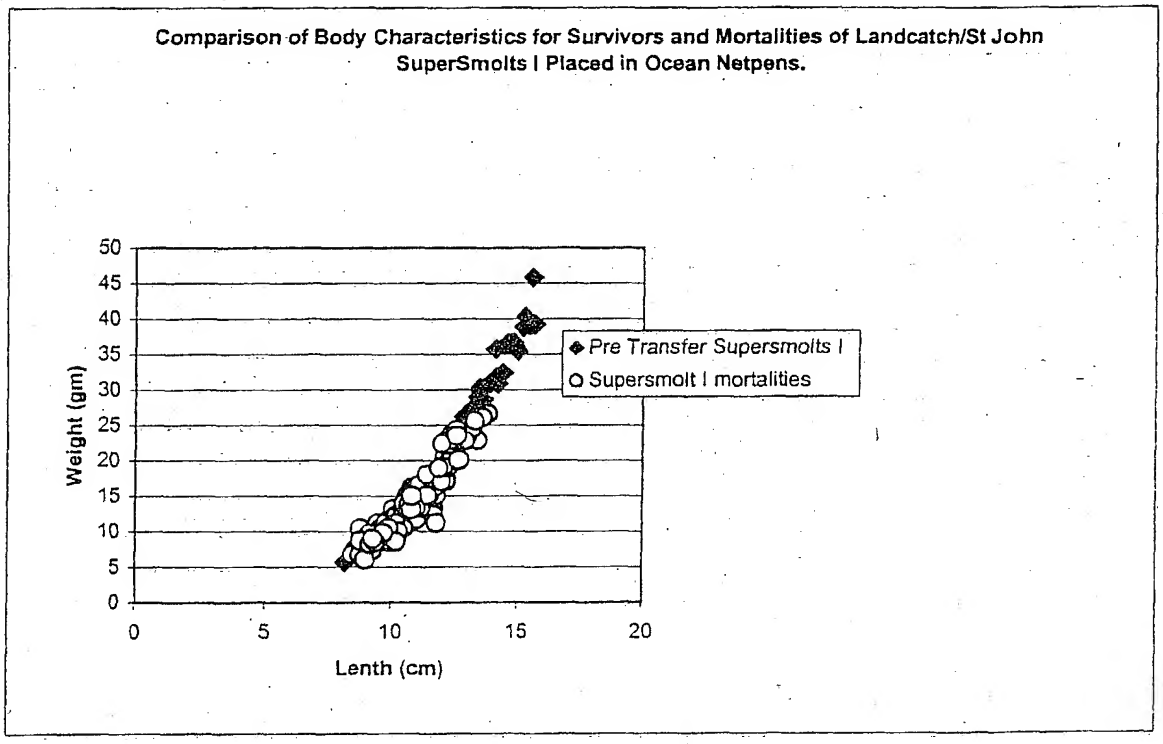

Comparison of Body Characteristics for Survivors and Mortalities of Landcatch/St John SuperSmolts I Placed in Ocean Netpens.
Weight (gm)
50
45
40
35
30
25
20
15
10
5
0
0
5
10
15
20
Lenth (cm)
Pre Transfer Supersmolts I
Supersmolt I mortalities

FIG. 8

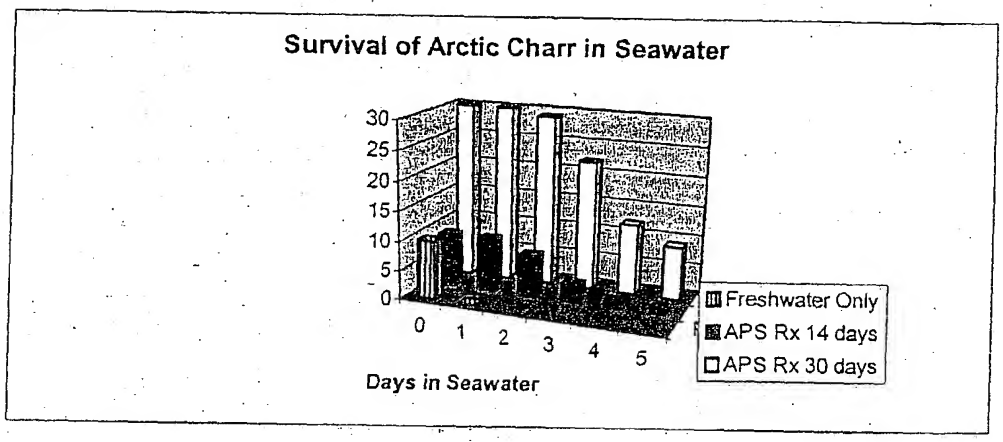

Survival of Arctic Charr in Seawater
30
25
20
15
10
5
0
0
1
2
3
4
5
Days in Seawater
Freshwater Only
APS Rx 14 days
APS Rx 30 days

FIG. 9

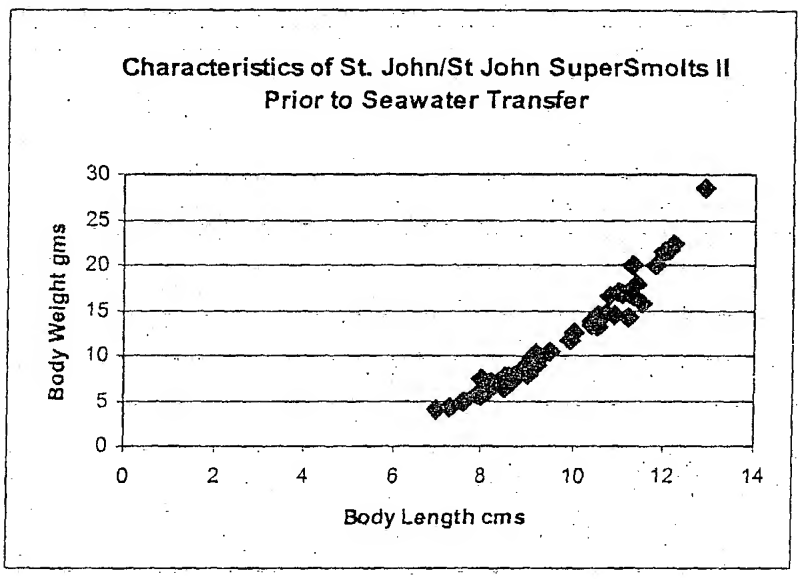

Characteristics of St. John/St John SuperSmolts II
Prior to Seawater Transfer
Body Weight gms
30
25
20
15
10
5
0
0
2
4
6
8
10
12
14
Body Length cms

FIG. 10

FIG. 11A

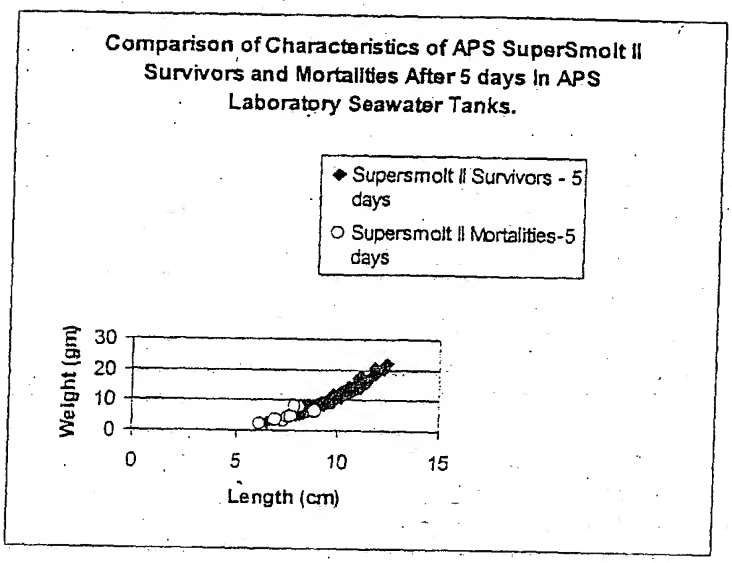
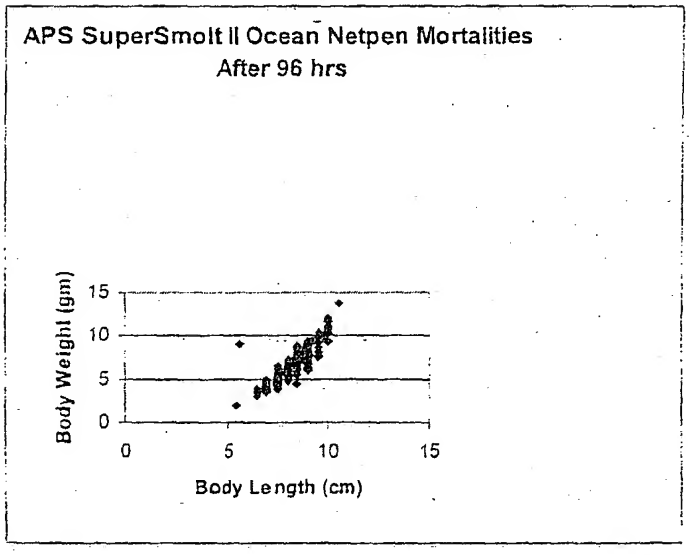


FIG. 11B



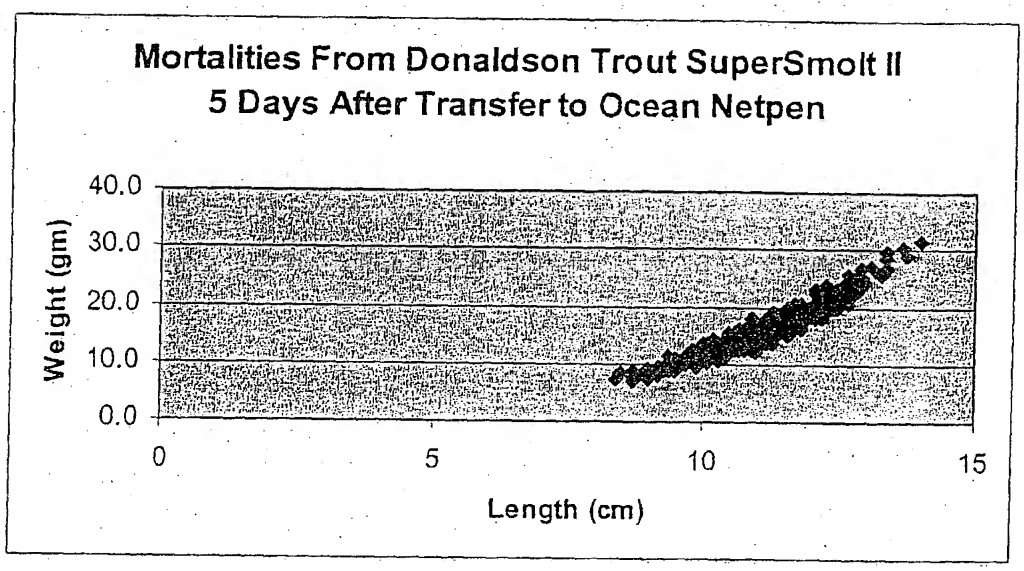

Mortalities From Donaldson Trout SuperSmolt II
5 Days After Transfer to Ocean Netpen
Weight (gm)
40.0
30.0
20.0
10.0
0.0
0
5
10
15
Length (cm)

FIG. 12

FIG. 13A

FIG. 13B

FIG. 13C

FIG.13D

FIG. 13E

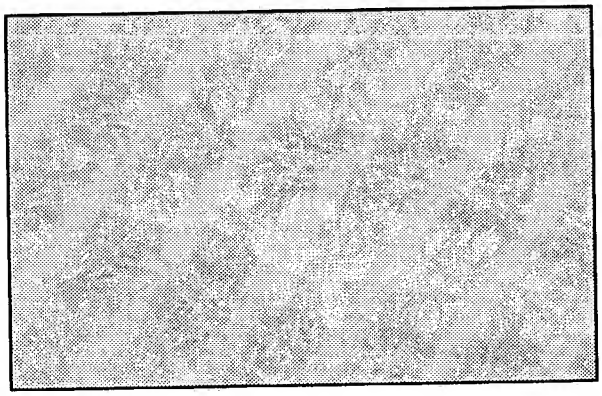


FIG. 13F

FIG. 13G

FIG. 14

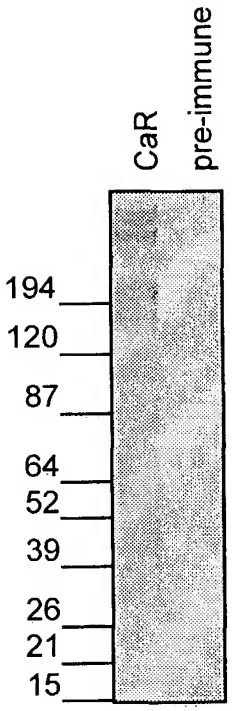


FIG. 15

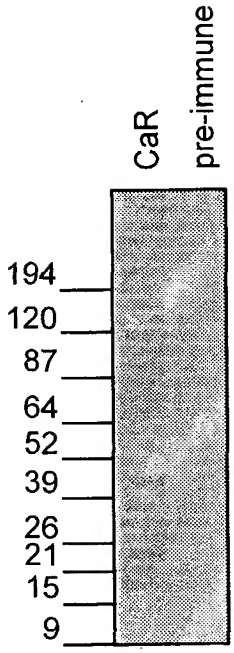


FIG. 17

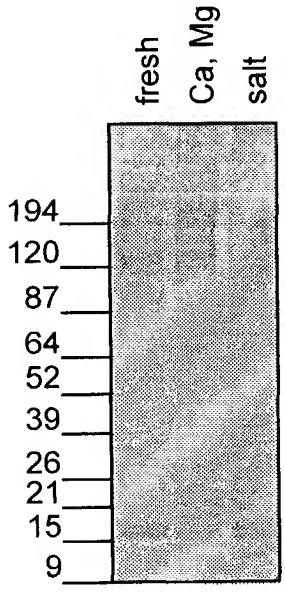


FIG. 16A

FIG. 16B

FIG. 16C

FIG. 16D

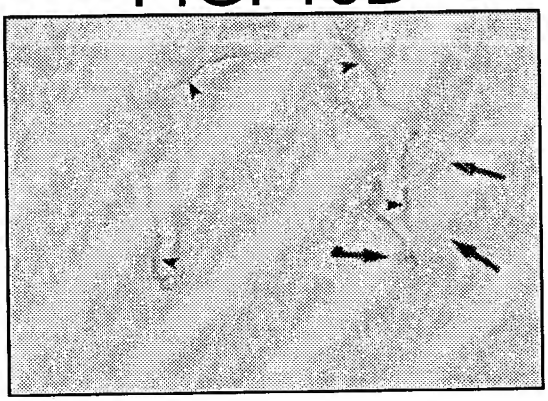


FIG. 16E

FIG. 16F

FIG. 16G

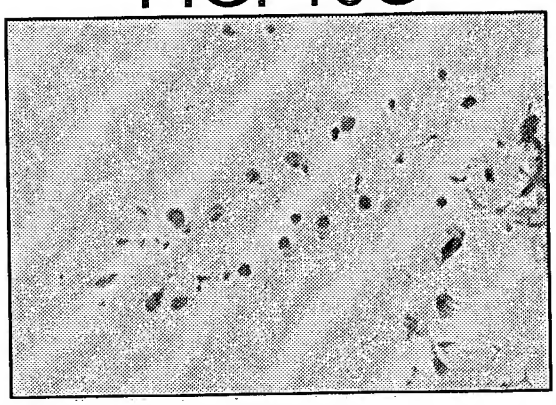


FIG. 16H

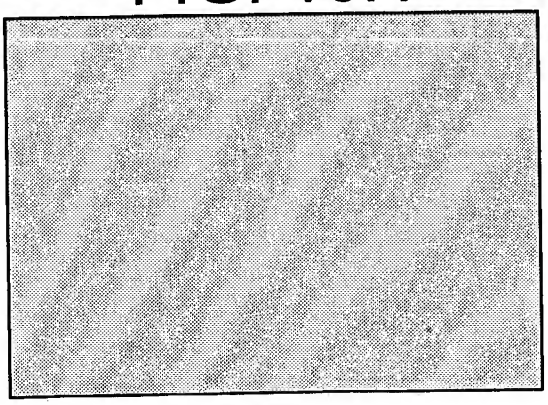


FIG. 18A

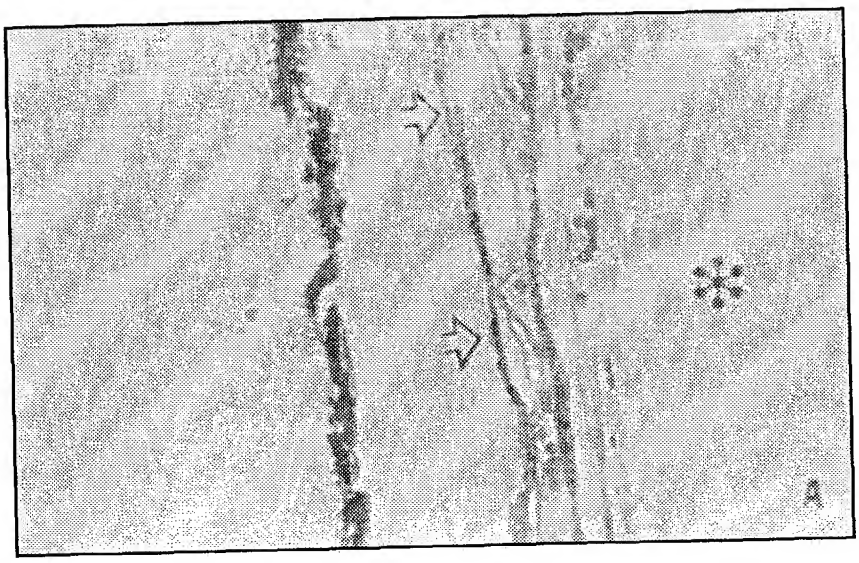


FIG. 18B

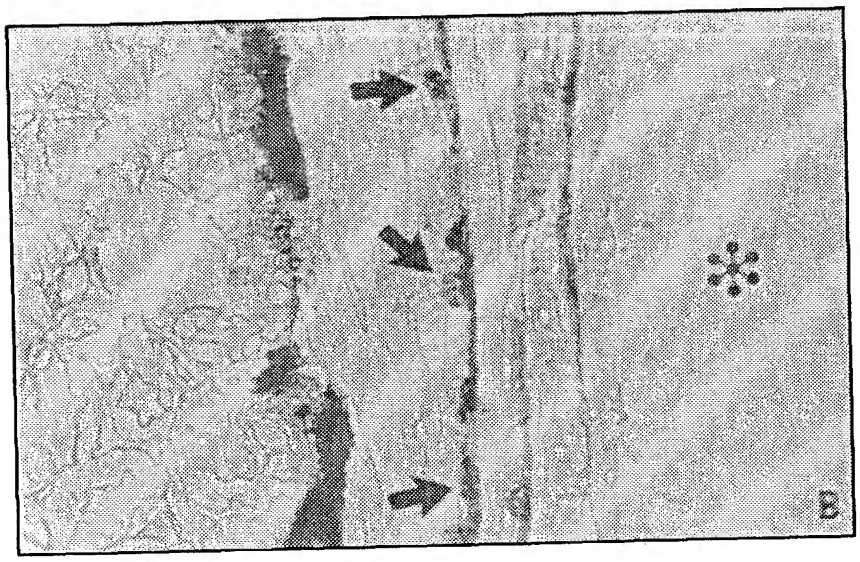


FIG. 18C

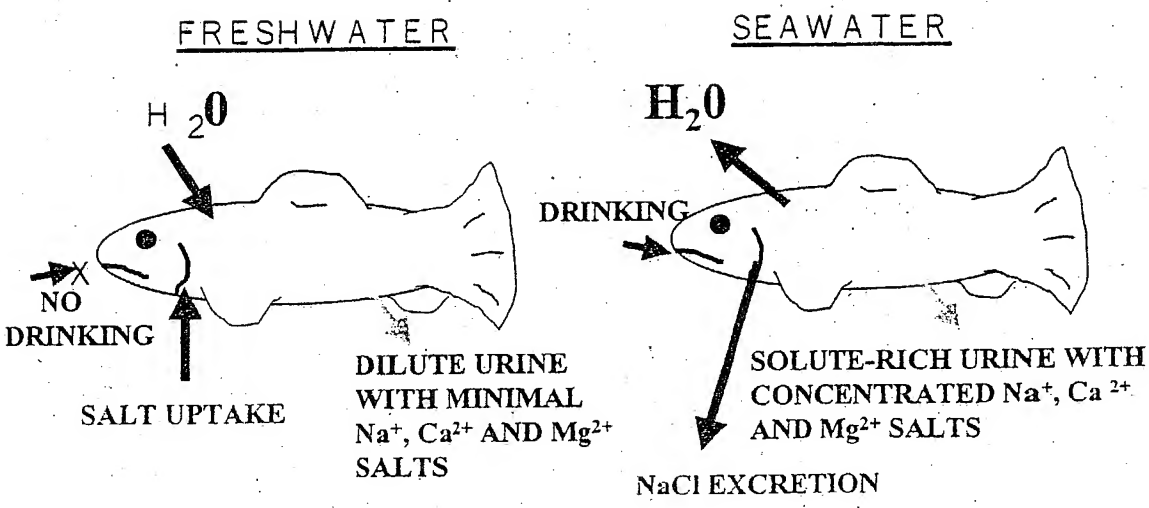

FRESHWATER
SEAWATER
H 20
H2O
NO DRINKING
DRINKING
SALT UPTAKE
DILUTE URINE WITH MINIMAL Na+, Ca2+ AND Mg2+ SALTS
SOLUTE-RICH URINE WITH CONCENTRATED Na+, Ca 2+ AND Mg2+ SALTS
NaCl EXCRETION

FIG. 19

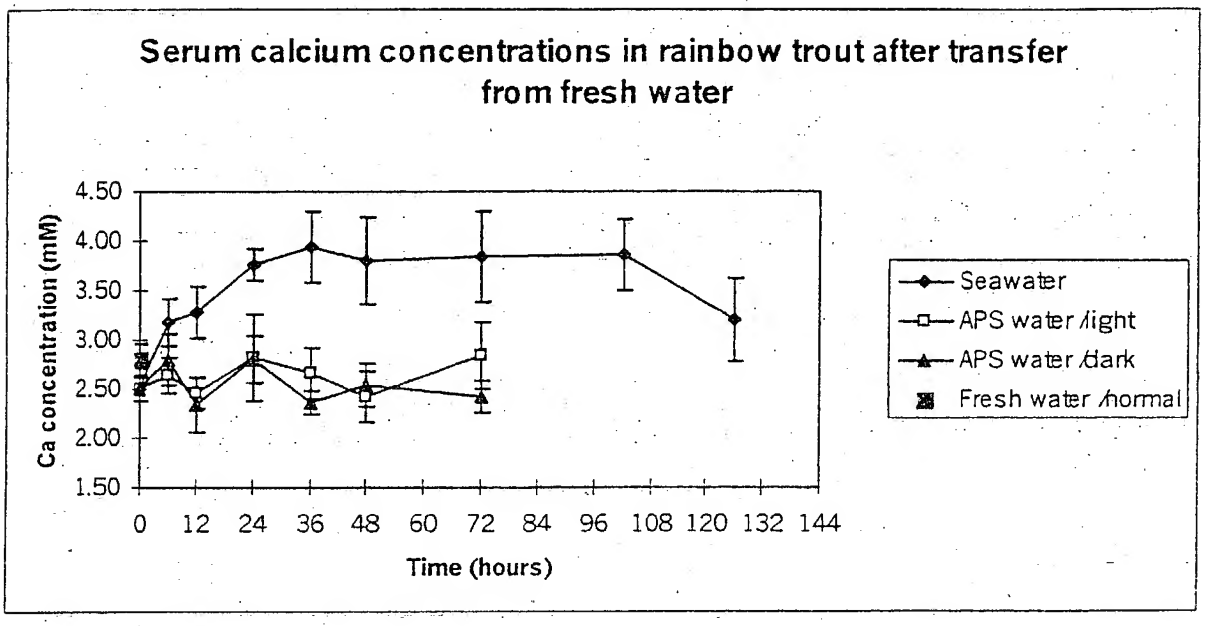

Serum calcium concentrations in rainbow trout after transfer from fresh water
Ca concentration (mM)
4.50
4.00
3.50
3.00
2.50
2.00
1.50
0
12
24
36
48
60
72
84
96
108
120
132
144
Time (hours)
Seawater
APS water /light
APS water /dark
Fresh water /normal

FIG. 20

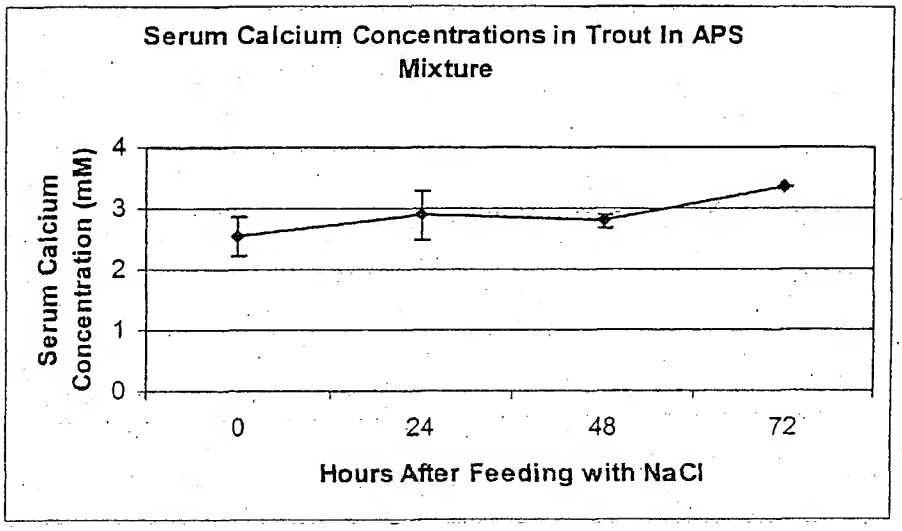

Serum Calcium Concentrations in Trout In APS Mixture
Serum Calcium Concentration (mM)
4
3
2
1
0
0
24
48
72
Hours After Feeding with NaCl

FIG. 21

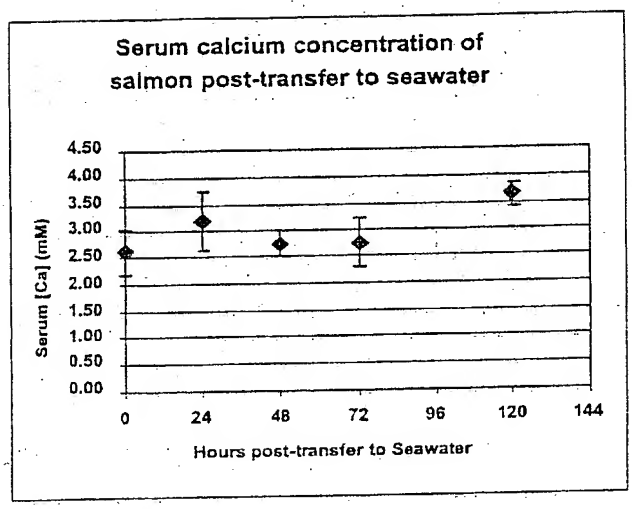


FIG. 22A

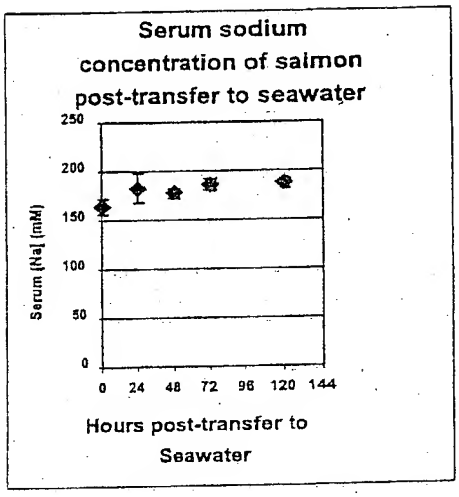


FIG. 22B

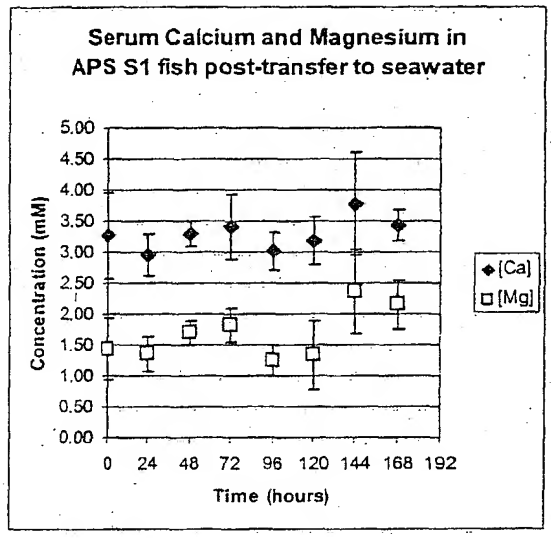


FIG. 23A

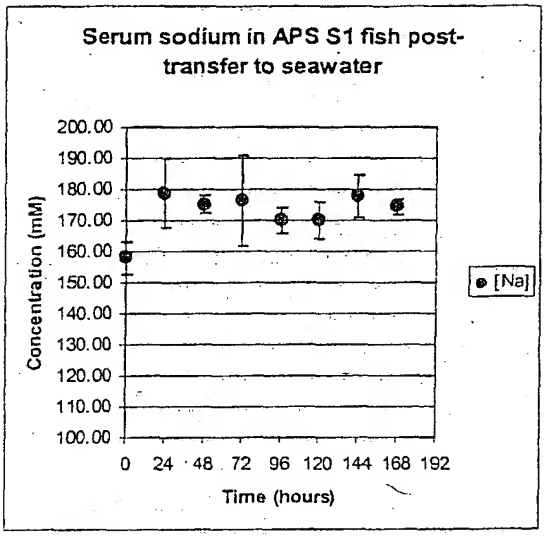


FIG. 23B

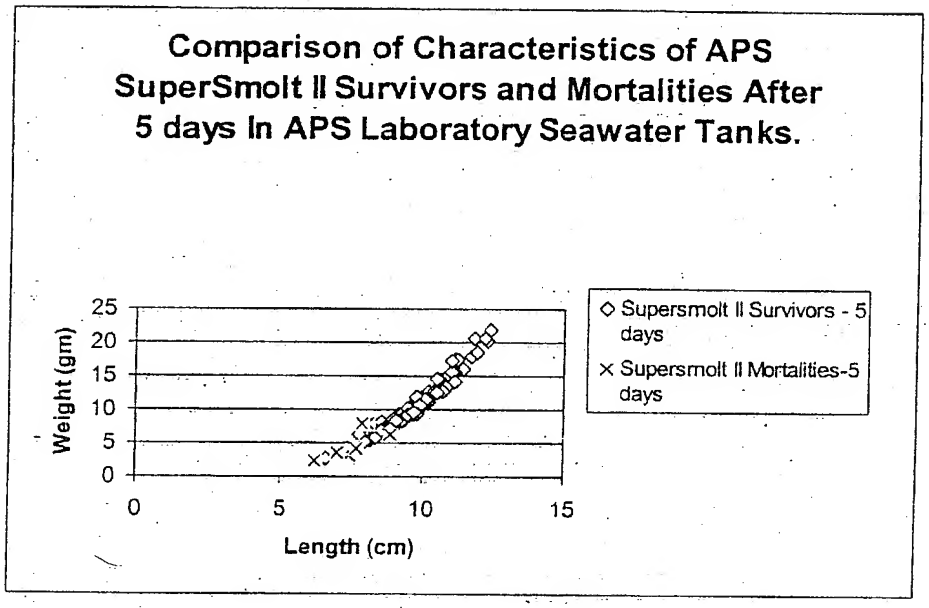

Comparison of Characteristics of APS SuperSmolt II Survivors and Mortalities After 5 days In APS Laboratory Seawater Tanks.
Weight (gm)
25
20
15
10
5
0
0
5
10
15
Length (cm)
◇ Supersmolt II Survivors - 5 days
× Supersmolt II Mortalities-5 days

FIG. 24

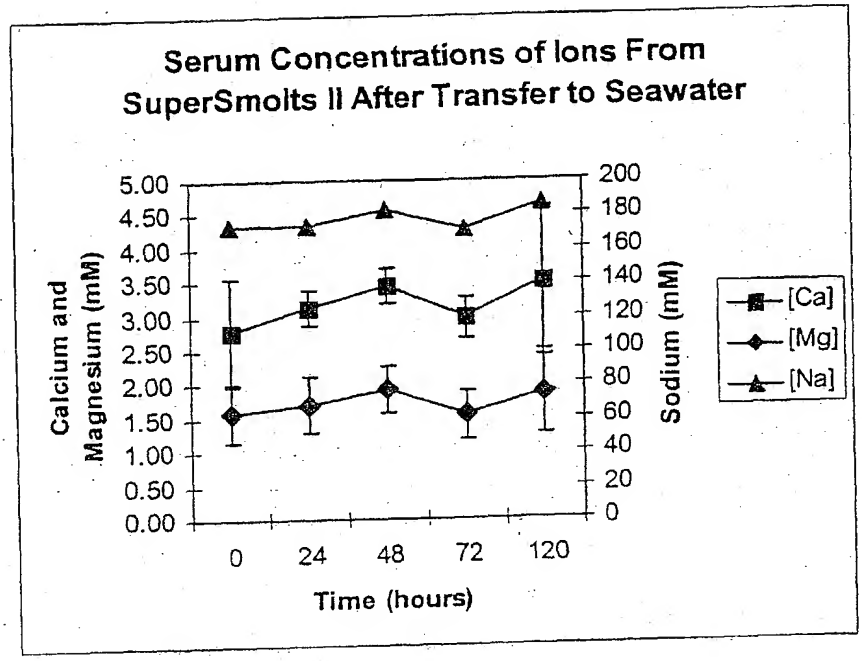

Serum Concentrations of Ions From SuperSmolts II After Transfer to Seawater
Calcium and Magnesium (mM)
Sodium (mM)
Time (hours)
0
24
48
72
120
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
0
20
40
60
80
100
120
140
160
180
200
[Ca]
[Mg]
[Na]

FIG. 25

FIG. 26A

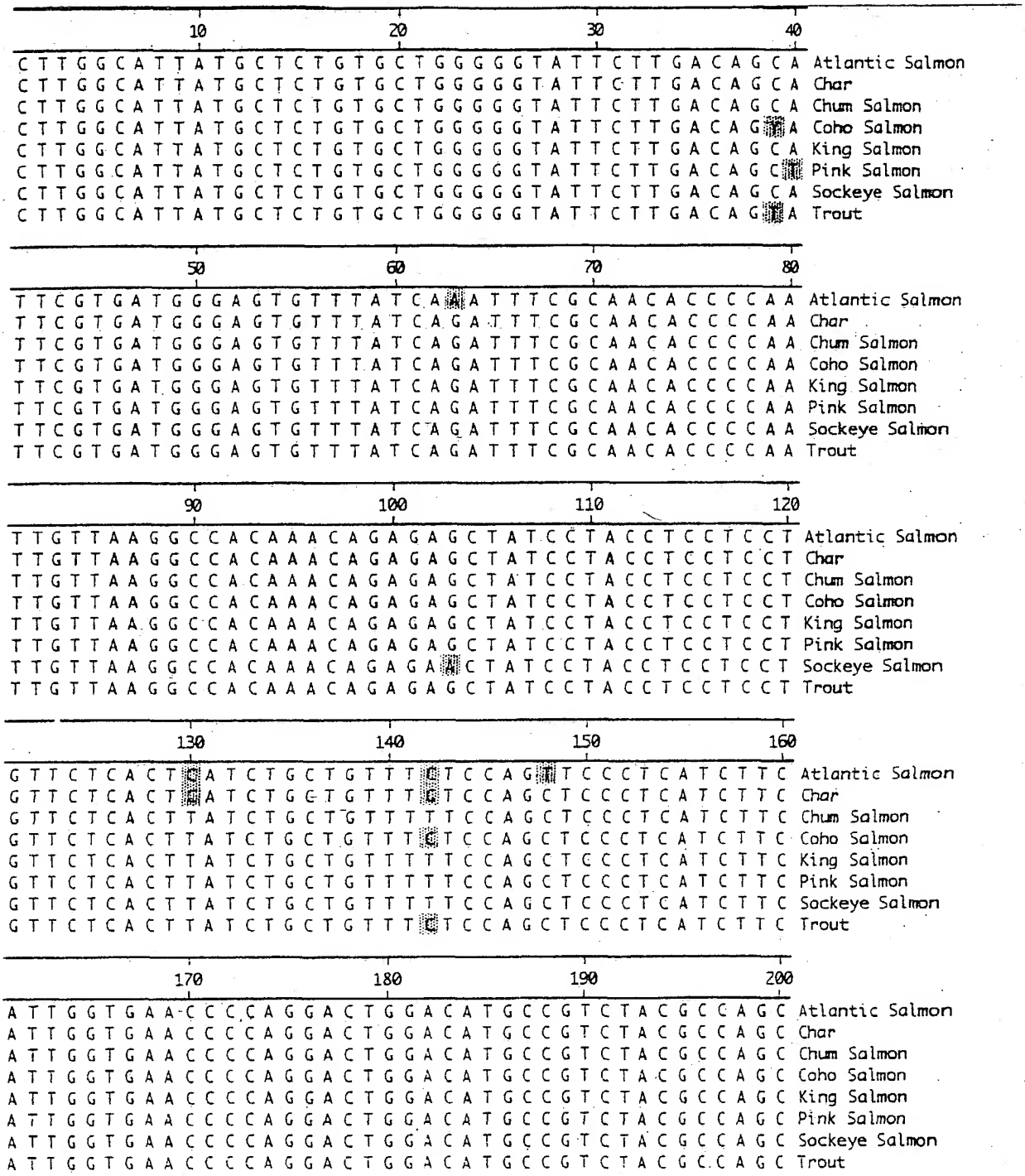
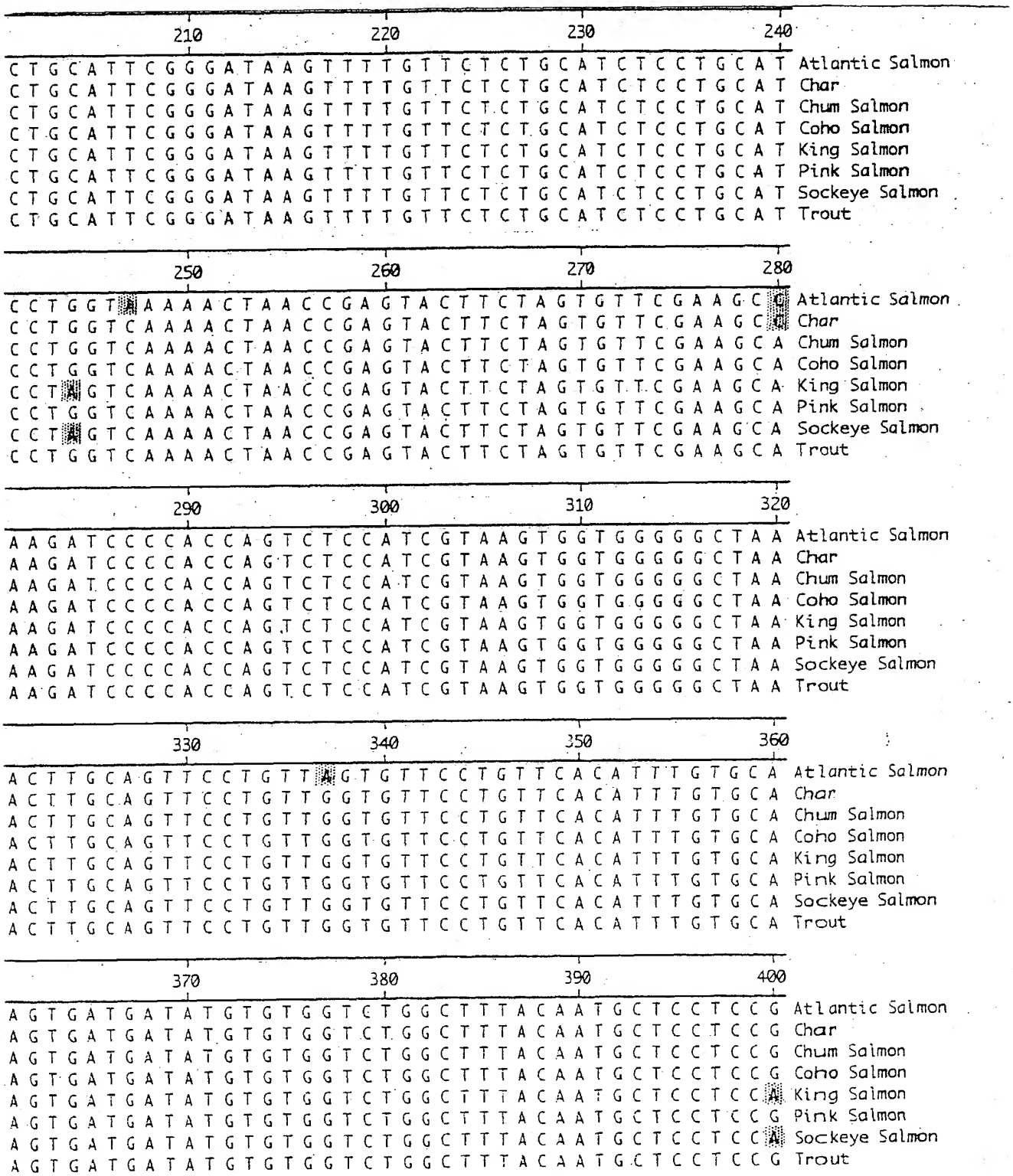
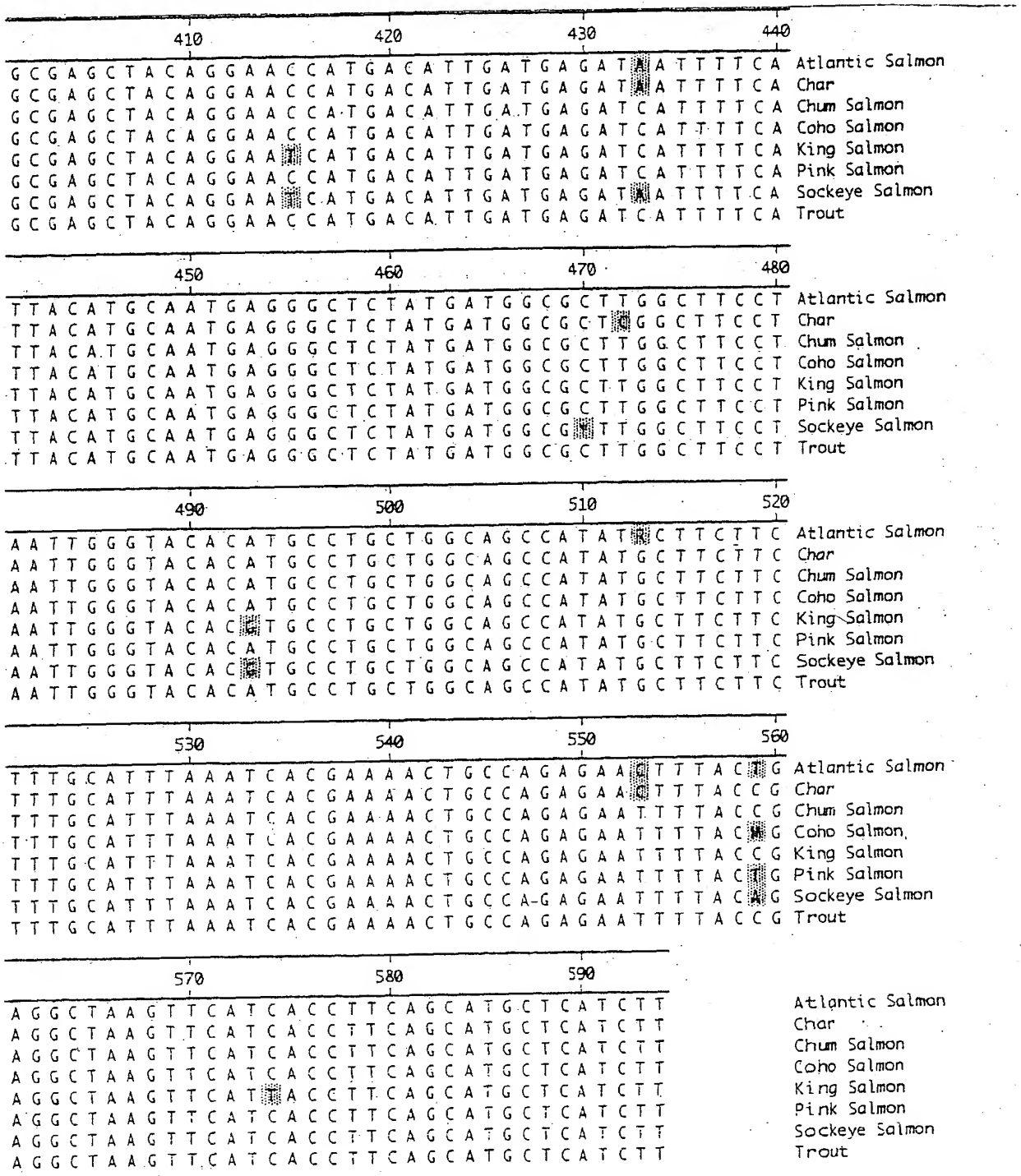

10 20 30 40
CTTGGCATTATGCTCTGTGCTGGGGGTATTCTTGACAGCA Atlantic Salmon
CTTGGCATTATGCTCTGTGCTGGGGGTATTCTTGACAGCA Char
CTTGGCATTATGCTCTGTGCTGGGGGTATTCTTGACAGCA Chum Salmon
CTTGGCATTATGCTCTGTGCTGGGGGTATTCTTGACAGTA Coho Salmon
CTTGGCATTATGCTCTGTGCTGGGGGTATTCTTGACAGCA King Salmon
CTTGGCATTATGCTCTGTGCTGGGGGTATTCTTGACAGCT Pink Salmon
CTTGGCATTATGCTCTGTGCTGGGGGTATTCTTGACAGCA Sockeye Salmon
CTTGGCATTATGCTCTGTGCTGGGGGTATTCTTGACAGTA Trout
50 60 70 80
TTCGTGATGGGAGTGTTTATCAAATTTCGCAACACCCCAA Atlantic Salmon
TTCGTGATGGGAGTGTTTATCAGATTTCGCAACACCCCAA Char
TTCGTGATGGGAGTGTTTATCAGATTTCGCAACACCCCAA Chum Salmon
TTCGTGATGGGAGTGTTTATCAGATTTCGCAACACCCCAA Coho Salmon
TTCGTGATGGGAGTGTTTATCAGATTTCGCAACACCCCAA King Salmon
TTCGTGATGGGAGTGTTTATCAGATTTCGCAACACCCCAA Pink Salmon
TTCGTGATGGGAGTGTTTATCAGATTTCGCAACACCCCAA Sockeye Salmon
TTCGTGATGGGAGTGTTTATCAGATTTCGCAACACCCCAA Trout
90 100 110 120
TTGTTAAGGCCACAAACAGAGAGCTATCCTACCTCCTCCT Atlantic Salmon
TTGTTAAGGCCACAAACAGAGAGCTATCCTACCTCCTCCT Char
TTGTTAAGGCCACAAACAGAGAGCTATCCTACCTCCTCCT Chum Salmon
TTGTTAAGGCCACAAACAGAGAGCTATCCTACCTCCTCCT Coho Salmon
TTGTTAAGGCCACAAACAGAGAGCTATCCTACCTCCTCCT King Salmon
TTGTTAAGGCCACAAACAGAGAGCTATCCTACCTCCTCCT Pink Salmon
TTGTTAAGGCCACAAACAGAGAACTATCCTACCTCCTCCT Sockeye Salmon
TTGTTAAGGCCACAAACAGAGAGCTATCCTACCTCCTCCT Trout
130 140 150 160
GTTCTCACTCATCTGCTGTTTCTCCAGTTCCCTCATCTTC Atlantic Salmon
GTTCTCACTCATCTGCTGTTTCTCCAGCTCCCTCATCTTC Char
GTTCTCACTTATCTGCTGTTTTTCCAGCTCCCTCATCTTC Chum Salmon
GTTCTCACTTATCTGCTGTTTCTCCAGCTCCCTCATCTTC Coho Salmon
GTTCTCACTTATCTGCTGTTTTTCCAGCTCCCTCATCTTC King Salmon
GTTCTCACTTATCTGCTGTTTTTCCAGCTCCCTCATCTTC Pink Salmon
GTTCTCACTTATCTGCTGTTTTTCCAGCTCCCTCATCTTC Sockeye Salmon
GTTCTCACTTATCTGCTGTTTCTCCAGCTCCCTCATCTTC Trout
170 180 190 200
ATTGGTGAA-CCCCAGGACTGGACATGCCGTCTACGCCAGC Atlantic Salmon
ATTGGTGAACCCCCAGGACTGGACATGCCGTCTACGCCAGC Char
ATTGGTGAACCCCCAGGACTGGACATGCCGTCTACGCCAGC Chum Salmon
ATTGGTGAACCCCCAGGACTGGACATGCCGTCTACGCCAGC Coho Salmon
ATTGGTGAACCCCCAGGACTGGACATGCCGTCTACGCCAGC King Salmon
ATTGGTGAACCCCCAGGACTGGACATGCCGTCTACGCCAGC Pink Salmon
ATTGGTGAACCCCCAGGACTGGACATGCCGTCTACGCCAGC Sockeye Salmon
ATTGGTGAACCCCCAGGACTGGACATGCCGTCTACGCCAGC Trout

FIG. 26B


210 220 230 240
CTGCATTCGGGATAAGTTTTGTTCTCTGCATCTCCTGCAT Atlantic Salmon
CTGCATTCGGGATAAGTTTTGTTCTCTGCATCTCCTGCAT Char
CTGCATTCGGGATAAGTTTTGTTCTCTGCATCTCCTGCAT Chum Salmon
CTGCATTCGGGATAAGTTTTGTTCTCTGCATCTCCTGCAT Coho Salmon
CTGCATTCGGGATAAGTTTTGTTCTCTGCATCTCCTGCAT King Salmon
CTGCATTCGGGATAAGTTTTGTTCTCTGCATCTCCTGCAT Pink Salmon
CTGCATTCGGGATAAGTTTTGTTCTCTGCATCTCCTGCAT Sockeye Salmon
CTGCATTCGGGATAAGTTTTGTTCTCTGCATCTCCTGCAT Trout
250 260 270 280
CCTGGTAAAAACTAACCGAGTACTTCTAGTGTTCGAAGCG Atlantic Salmon
CCTGGTCAAAAACTAACCGAGTACTTCTAGTGTTCGAAGCG Char
CCTGGTCAAAAACTAACCGAGTACTTCTAGTGTTCGAAGCA Chum Salmon
CCTGGTCAAAAACTAACCGAGTACTTCTAGTGTTCGAAGCA Coho Salmon
CCTAGTCAAAAACTAACCGAGTACTTCTAGTGTTCGAAGCA King Salmon
CCTGGTCAAAAACTAACCGAGTACTTCTAGTGTTCGAAGCA Pink Salmon
CCTAGTCAAAAACTAACCGAGTACTTCTAGTGTTCGAAGCA Sockeye Salmon
CCTGGTCAAAAACTAACCGAGTACTTCTAGTGTTCGAAGCA Trout
290 300 310 320
AAGATCCCCACCAGTCTCCATCGTAAGTGGTGGGGGGCTAA Atlantic Salmon
AAGATCCCCACCAGTCTCCATCGTAAGTGGTGGGGGGCTAA Char
AAGATCCCCACCAGTCTCCATCGTAAGTGGTGGGGGGCTAA Chum Salmon
AAGATCCCCACCAGTCTCCATCGTAAGTGGTGGGGGGCTAA Coho Salmon
AAGATCCCCACCAGTCTCCATCGTAAGTGGTGGGGGGCTAA King Salmon
AAGATCCCCACCAGTCTCCATCGTAAGTGGTGGGGGGCTAA Pink Salmon
AAGATCCCCACCAGTCTCCATCGTAAGTGGTGGGGGGCTAA Sockeye Salmon
AAGATCCCCACCAGTCTCCATCGTAAGTGGTGGGGGGCTAA Trout
330 340 350 360
ACTTGCAGTTCCTGTTAGTGTTCCTGTTCACATTTGTGCA Atlantic Salmon
ACTTGCAGTTCCTGTTGGTGTTCCTGTTCACATTTGTGCA Char
ACTTGCAGTTCCTGTTGGTGTTCCTGTTCACATTTGTGCA Chum Salmon
ACTTGCAGTTCCTGTTGGTGTTCCTGTTCACATTTGTGCA Coho Salmon
ACTTGCAGTTCCTGTTGGTGTTCCTGTTCACATTTGTGCA King Salmon
ACTTGCAGTTCCTGTTGGTGTTCCTGTTCACATTTGTGCA Pink Salmon
ACTTGCAGTTCCTGTTGGTGTTCCTGTTCACATTTGTGCA Sockeye Salmon
ACTTGCAGTTCCTGTTGGTGTTCCTGTTCACATTTGTGCA Trout
370 380 390 400
AGTGATGATATGTGTGGTCTGGCTTTACAATGCTCCTCCG Atlantic Salmon
AGTGATGATATGTGTGGTCTGGCTTTACAATGCTCCTCCG Char
AGTGATGATATGTGTGGTCTGGCTTTACAATGCTCCTCCG Chum Salmon
AGTGATGATATGTGTGGTCTGGCTTTACAATGCTCCTCCG Coho Salmon
AGTGATGATATGTGTGGTCTGGCTTTACAATGCTCCTCCA King Salmon
AGTGATGATATGTGTGGTCTGGCTTTACAATGCTCCTCCG Pink Salmon
AGTGATGATATGTGTGGTCTGGCTTTACAATGCTCCTCCA Sockeye Salmon
AGTGATGATATGTGTGGTCTGGCTTTACAATGCTCCTCCG Trout



Decoration 'Decoration #1': Shade (with black at 40% fill) residues that differ from the Consensus.

FIG. 26C

```
                                10                  20
1   Leu Ala Leu Cys Ser Val Leu Gly Val Phe Leu Thr Ala Phe Val Met Gly Val Phe Ile  Atlantic Salmon ORF
1   Leu Ala Leu Cys Ser Val Leu Gly Val Phe Leu Thr Ala Phe Val Met Gly Val Phe Ile  Char ORF
1   Leu Ala Leu Cys Ser Val Leu Gly Val Phe Leu Thr Ala Phe Val Met Gly Val Phe Ile  Chum Salmon ORF
1   Leu Ala Leu Cys Ser Val Leu Gly Val Phe Leu Thr Ala Phe Val Met Gly Val Phe Ile  Coho Salmon ORF
1   Leu Ala Leu Cys Ser Val Leu Gly Val Phe Leu Thr Ala Phe Val Met Gly Val Phe Ile  King Salmon ORF
1   Leu Ala Leu Cys Ser Val Leu Gly Val Phe Leu Thr Ala Phe Val Met Gly Val Phe Ile  Pink Salmon ORF
1   Leu Ala Leu Cys Ser Val Leu Gly Val Phe Leu Thr Ala Phe Val Met Gly Val Phe Ile  Sockeye Salmon ORF
1   Leu Ala Leu Cys Ser Val Leu Gly Val Phe Leu Thr Val Phe Val Met Gly Val Phe Ile  Trout ORF

                                30                  40
61  Lys Phe Arg Asn Thr Pro Ile Val Lys Ala Thr Asn Arg Glu Leu Ser Tyr Leu Leu Leu  Atlantic Salmon ORF
61  Arg Phe Arg Asn Thr Pro Ile Val Lys Ala Thr Asn Arg Glu Leu Ser Tyr Leu Leu Leu  Char ORF
61  Arg Phe Arg Asn Thr Pro Ile Val Lys Ala Thr Asn Arg Glu Leu Ser Tyr Leu Leu Leu  Chum Salmon ORF
61  Arg Phe Arg Asn Thr Pro Ile Val Lys Ala Thr Asn Arg Glu Leu Ser Tyr Leu Leu Leu  Coho Salmon ORF
61  Arg Phe Arg Asn Thr Pro Ile Val Lys Ala Thr Asn Arg Glu Leu Ser Tyr Leu Leu Leu  King Salmon ORF
61  Arg Phe Arg Asn Thr Pro Ile Val Lys Ala Thr Asn Arg Glu Leu Ser Tyr Leu Leu Leu  Pink Salmon ORF
61  Arg Phe Arg Asn Thr Pro Ile Val Lys Ala Thr Asn Arg Glu Leu Ser Tyr Leu Leu Leu  Sockeye Salmon ORF
61  Arg Phe Arg Asn Thr Pro Ile Val Lys Ala Thr Asn Arg Glu Leu Ser Tyr Leu Leu Leu  Trout ORF

                                50                  60
121 Phe Ser Leu Ile Cys Cys Phe Ser Ser Ser Leu Ile Phe Ile Gly Glu Pro Gln Asp Trp  Atlantic Salmon ORF
121 Phe Ser Leu Ile Cys Cys Phe Ser Ser Ser Leu Ile Phe Ile Gly Glu Pro Gln Asp Trp  Char ORF
121 Phe Ser Leu Ile Cys Cys Phe Ser Ser Ser Leu Ile Phe Ile Gly Glu Pro Gln Asp Trp  Chum Salmon ORF
121 Phe Ser Leu Ile Cys Cys Phe Ser Ser Ser Leu Ile Phe Ile Gly Glu Pro Gln Asp Trp  Coho Salmon ORF
121 Phe Ser Leu Ile Cys Cys Phe Ser Ser Ser Leu Ile Phe Ile Gly Glu Pro Gln Asp Trp  King Salmon ORF
121 Phe Ser Leu Ile Cys Cys Phe Ser Ser Ser Leu Ile Phe Ile Gly Glu Pro Gln Asp Trp  Pink Salmon ORF
121 Phe Ser Leu Ile Cys Cys Phe Ser Ser Ser Leu Ile Phe Ile Gly Glu Pro Gln Asp Trp  Sockeye Salmon ORF
121 Phe Ser Leu Ile Cys Cys Phe Ser Ser Ser Leu Ile Phe Ile Gly Glu Pro Gln Asp Trp  Trout ORF

                                70                  80
181 Thr Cys Arg Leu Arg Gln Pro Ala Phe Gly Ile Ser Phe Val Leu Cys Ile Ser Cys Ile  Atlantic Salmon ORF
181 Thr Cys Arg Leu Arg Gln Pro Ala Phe Gly Ile Ser Phe Val Leu Cys Ile Ser Cys Ile  Char ORF
181 Thr Cys Arg Leu Arg Gln Pro Ala Phe Gly Ile Ser Phe Val Leu Cys Ile Ser Cys Ile  Chum Salmon ORF
181 Thr Cys Arg Leu Arg Gln Pro Ala Phe Gly Ile Ser Phe Val Leu Cys Ile Ser Cys Ile  Coho Salmon ORF
181 Thr Cys Arg Leu Arg Gln Pro Ala Phe Gly Ile Ser Phe Val Leu Cys Ile Ser Cys Ile  King Salmon ORF
181 Thr Cys Arg Leu Arg Gln Pro Ala Phe Gly Ile Ser Phe Val Leu Cys Ile Ser Cys Ile  Pink Salmon ORF
181 Thr Cys Arg Leu Arg Gln Pro Ala Phe Gly Ile Ser Phe Val Leu Cys Ile Ser Cys Ile  Sockeye Salmon ORF
181 Thr Cys Arg Leu Arg Gln Pro Ala Phe Gly Ile Ser Phe Val Leu Cys Ile Ser Cys Ile  Trout ORF

                                90                  100
241 Leu Val Lys Thr Asn Arg Val Leu Leu Val Phe Glu Ala Lys Ile Pro Thr Ser Leu His  Atlantic Salmon ORF
241 Leu Val Lys Thr Asn Arg Val Leu Leu Val Phe Glu Ala Lys Ile Pro Thr Ser Leu His  Char ORF
241 Leu Val Lys Thr Asn Arg Val Leu Leu Val Phe Glu Ala Lys Ile Pro Thr Ser Leu His  Chum Salmon ORF
241 Leu Val Lys Thr Asn Arg Val Leu Leu Val Phe Glu Ala Lys Ile Pro Thr Ser Leu His  Coho Salmon ORF
241 Leu Val Lys Thr Asn Arg Val Leu Leu Val Phe Glu Ala Lys Ile Pro Thr Ser Leu His  King Salmon ORF
241 Leu Val Lys Thr Asn Arg Val Leu Leu Val Phe Glu Ala Lys Ile Pro Thr Ser Leu His  Pink Salmon ORF
241 Leu Val Lys Thr Asn Arg Val Leu Leu Val Phe Glu Ala Lys Ile Pro Thr Ser Leu His  Sockeye Salmon ORF
241 Leu Val Lys Thr Asn Arg Val Leu Leu Val Phe Glu Ala Lys Ile Pro Thr Ser Leu His  Trout ORF
```

FIG. 27A

```
                                      110                                 120
301 Arg Lys Trp Trp Gly Leu Asn Leu Gln Phe Leu Leu Val Phe Leu Phe Thr Phe Val Gln Atlantic Salmon ORF
301 Arg Lys Trp Trp Gly Leu Asn Leu Gln Phe Leu Leu Val Phe Leu Phe Thr Phe Val Gln Char ORF
301 Arg Lys Trp Trp Gly Leu Asn Leu Gln Phe Leu Leu Val Phe Leu Phe Thr Phe Val Gln Chum Salmon ORF
301 Arg Lys Trp Trp Gly Leu Asn Leu Gln Phe Leu Leu Val Phe Leu Phe Thr Phe Val Gln Coho Salmon ORF
301 Arg Lys Trp Trp Gly Leu Asn Leu Gln Phe Leu Leu Val Phe Leu Phe Thr Phe Val Gln King Salmon ORF
301 Arg Lys Trp Trp Gly Leu Asn Leu Gln Phe Leu Leu Val Phe Leu Phe Thr Phe Val Gln Pink Salmon ORF
301 Arg Lys Trp Trp Gly Leu Asn Leu Gln Phe Leu Leu Val Phe Leu Phe Thr Phe Val Gln Sockeye Salmon ORF
301 Arg Lys Trp Trp Gly Leu Asn Leu Gln Phe Leu Leu Val Phe Leu Phe Thr Phe Val Gln Trout ORF

                                      130                                 140
361 Val Met Ile Cys Val Val Trp Leu Tyr Asn Ala Pro Pro Ala Ser Tyr Arg Asn His Asp Atlantic Salmon ORF
361 Val Met Ile Cys Val Val Trp Leu Tyr Asn Ala Pro Pro Ala Ser Tyr Arg Asn His Asp Char ORF
361 Val Met Ile Cys Val Val Trp Leu Tyr Asn Ala Pro Pro Ala Ser Tyr Arg Asn His Asp Chum Salmon ORF
361 Val Met Ile Cys Val Val Trp Leu Tyr Asn Ala Pro Pro Ala Ser Tyr Arg Asn His Asp Coho Salmon ORF
361 Val Met Ile Cys Val Val Trp Leu Tyr Asn Ala Pro Pro Ala Ser Tyr Arg Asn His Asp King Salmon ORF
361 Val Met Ile Cys Val Val Trp Leu Tyr Asn Ala Pro Pro Ala Ser Tyr Arg Asn His Asp Pink Salmon ORF
361 Val Met Ile Cys Val Val Trp Leu Tyr Asn Ala Pro Pro Ala Ser Tyr Arg Asn His Asp Sockeye Salmon ORF
361 Val Met Ile Cys Val Val Trp Leu Tyr Asn Ala Pro Pro Ala Ser Tyr Arg Asn His Asp Trout ORF

                                      150                                 160
421 Ile Asp Glu Ile Ile Phe Ile Thr Cys Asn Glu Gly Ser Met Met Ala Leu Gly Phe Leu Atlantic Salmon ORF
421 Ile Asp Glu Ile Ile Phe Ile Thr Cys Asn Glu Gly Ser Met Met Ala Leu Gly Phe Leu Char ORF
421 Ile Asp Glu Ile Ile Phe Ile Thr Cys Asn Glu Gly Ser Met Met Ala Leu Gly Phe Leu Chum Salmon ORF
421 Ile Asp Glu Ile Ile Phe Ile Thr Cys Asn Glu Gly Ser Met Met Ala Leu Gly Phe Leu Coho Salmon ORF
421 Ile Asp Glu Ile Ile Phe Ile Thr Cys Asn Glu Gly Ser Met Met Ala Leu Gly Phe Leu King Salmon ORF
421 Ile Asp Glu Ile Ile Phe Ile Thr Cys Asn Glu Gly Ser Met Met Ala Leu Gly Phe Leu Pink Salmon ORF
421 Ile Asp Glu Ile Ile Phe Ile Thr Cys Asn Glu Gly Ser Met Met Ala Leu Gly Phe Leu Sockeye Salmon ORF
421 Ile Asp Glu Ile Ile Phe Ile Thr Cys Asn Glu Gly Ser Met Met Ala Leu Gly Phe Leu Trout ORF

                                      170                                 180
481 Ile Gly Tyr Thr Cys Leu Leu Ala Ala Ile Tyr Phe Phe Phe Ala Phe Lys Ser Arg Lys Atlantic Salmon ORF
481 Ile Gly Tyr Thr Cys Leu Leu Ala Ala Ile Cys Phe Phe Phe Ala Phe Lys Ser Arg Lys Char ORF
481 Ile Gly Tyr Thr Cys Leu Leu Ala Ala Ile Cys Phe Phe Phe Ala Phe Lys Ser Arg Lys Chum Salmon ORF
481 Ile Gly Tyr Thr Cys Leu Leu Ala Ala Ile Cys Phe Phe Phe Ala Phe Lys Ser Arg Lys Coho Salmon ORF
481 Ile Gly Tyr Thr Cys Leu Leu Ala Ala Ile Cys Phe Phe Phe Ala Phe Lys Ser Arg Lys King Salmon ORF
481 Ile Gly Tyr Thr Cys Leu Leu Ala Ala Ile Cys Phe Phe Phe Ala Phe Lys Ser Arg Lys Pink Salmon ORF
481 Ile Gly Tyr Thr Cys Leu Leu Ala Ala Ile Cys Phe Phe Phe Ala Phe Lys Ser Arg Lys Sockeye Salmon ORF
481 Ile Gly Tyr Thr Cys Leu Leu Ala Ala Ile Cys Phe Phe Phe Ala Phe Lys Ser Arg Lys Trout ORF

                                      190
541 Leu Pro Glu Asn Phe Thr Glu Ala Lys Phe Ile Thr Phe Ser Met Leu Ile Atlantic Salmon ORF
541 Leu Pro Glu Asn Phe Thr Glu Ala Lys Phe Ile Thr Phe Ser Met Leu Ile Char ORF
541 Leu Pro Glu Asn Phe Thr Glu Ala Lys Phe Ile Thr Phe Ser Met Leu Ile Chum Salmon ORF
541 Leu Pro Glu Asn Phe Thr Glu Ala Lys Phe Ile Thr Phe Ser Met Leu Ile Coho Salmon ORF
541 Leu Pro Glu Asn Phe Thr Glu Ala Lys Phe Ile Thr Phe Ser Met Leu Ile King Salmon ORF
541 Leu Pro Glu Asn Phe Thr Glu Ala Lys Phe Ile Thr Phe Ser Met Leu Ile Pink Salmon ORF
541 Leu Pro Glu Asn Phe Thr Glu Ala Lys Phe Ile Thr Phe Ser Met Leu Ile Sockeye Salmon ORF
541 Leu Pro Glu Asn Phe Thr Glu Ala Lys Phe Ile Thr Phe Ser Met Leu Ile Trout ORF
```

Decoration 'Decoration #1': Shade (with black at 40% fill) residues that differ from the Consensus.

FIG. 27B

```
aattccgttg ctgtcggttc agtccaagtc tcctccagtg caaaatgaga aatggtggtc 60
gccattacag gaacatgcac tacatctgtg ttaatgaaat attgtcagtt atctgaaggt 120
tattaaaatg tttctgcaag gatggcttca cgagaaatca attctgcacg ttttcccatt 180
gtcattgtat gaataactga ccaaagggat gtaacaaaat ggaacaaagc tgaggaccac 240
gttcaccctt tcttggagca tacgatcaac cctgaaggag atggaagact tgaggaggaa 300
atggggattg atcttccagg agttctgctg taaagcgatc cctcaccatt acaaagataa 360
gcagaaatcc tccaggcatc ctctgtaaac gggctggcgt agtgtggctt ggtcaaggaa 420
cagagacagg gctgcacaat ggctcagctt cactgccaac tcttattctt gggatttaca 480
                ORF
ctcctacagt cgtacaatgt ctcagggtat ggtccaaacc aaagggccca gaagaaagga 540
gacatcatac tgggaggtct cttcccaata cactttggag tagccgccaa ggatcaggac 600
ttaaaatcga gaccggaggc gacaaaatgt attcggtaca attttcgagg cttccgatgg 660
ctccaggcga tgatattcgc aattgaagag attaacaaca gtatgacttt cctgcccaat 720
atcaccctgg gatatcgcat atttgacacg tgtaacaccg tgtccaaggc gctagaggca 780
acactcagct ttgtggccca gaacaaaatc gactcgctga acttagatga gttctgtaac 840
tgctctgacc atatcccatc cacaatagca gtggtcgggg caaccgggtc aggaatctcc 900
acggctgtgg ccaatctatt gggattattt tacattccac aggtcagcta tgcctcctcg 960
agcaggctgc tcagcaacaa gaatgagtac aaggccttcc tgaggaccat ccccaatgat 1020
gagcaacagg ccacggccat ggccgagatc atcgagcact tccagtggaa ctgggtggga 1080
accctggcag ccgacgatga ctatggccgc ccaggcattg acaagttccg ggaggaggcc 1140
gttaagaggg acatctgtat tgacttcagt gagatgatct ctcagtacta cacccagaag 1200
cagttggagt tcatcgccga cgtcatccag aactcctcgg ccaaggtcat cgtggtcttc 1260
tccaatggcc ccgacctgga gccgctcatc caggagatag ttcggagaaa catcaccgat 1320
cggatctggc tggccagcga ggcttgggcc agctcttcgc tcattgccaa gccagagtac 1380
ttccacgtgg tcggcggcac catcggcttc gctctcaggg cggggcgtat cccagggttc 1440
aacaagttcc tgaaggaggt ccaccccagc aggtcctcgg acaatgggtt tgtcaaggag 1500
ttctgggagg agaccttcaa ctgctacttc accgagaaga ccctgacgca gctgaagaat 1560
tccaaggtgc cctcgcacgg accggcggct caaggggacg gctccaaggc ggggaactcc 1620
agacggacag ccctacgcca cccctgcact ggggaggaga acatcaccag cgtggagacc 1680
ccctacctgg attatacaca cctgaggatc tcctacaatg tatacgtggc cgtctactcc 1740
attgctcacg ccctgcaaga catccactct tgcaaacccg gcacgggcat ctttgcaaac 1800
ggatcttgtg cagatattaa aaaagttgag gcctggcagg tcctcaacca tctgctgcat 1860
ctgaagttta ccaacagcat gggtgagcag gttgactttg acgatcaagg tgacctcaag 1920
gggaactaca ccattatcaa ctggcagctc tccgcagagg atgaatcggt gttgttccat 1980
gaggtgggca actacaacgc ctacgctaag cccagtgacc gactcaacat caacgaaaag 2040
aaaatcctct ggagtggctt ctccaaagtg gttcctttct ccaactgcag tcgagactgt 2100
gtgccgggca ccaggaaggg gatcatcgag ggggagccca cctgctgctt tgaatgcatg 2160
gcatgtgcag agggagagtt cagtgatgaa aacgatgcaa gtgcgtgtac aaagtgcccg 2220
aatgatttct ggtcgaatga gaaccacacg tcgtgcatcg ccaaggagat cgagtacctg 2280
tcgtggacgg agccccttcgg gatcgctctg accatcttcg ccgtactggg catcctgatc 2340
acctccttcg tgctgggggt cttcatcaag ttcaggaaca ctcccatcgt gaaggccacc 2400
aaccgggagt tgtcctacct gctgctcttc tccctcatct gctgcttctc cagctcgctc 2460
atcttcatcg gcgagcccag ggactggacc tgtcggctcc gccaaccggc ctttggcatc 2520
agcttcgtcc tgtgcatctc ctgcatcctg gtgaagacca accgggtgct gctggtcttc 2580
gaggccaaga tcccccaccag cctccaccgc aagtgggtgg gcctcaacct gcagttcctc 2640
ctggtcttcc tctgcatcct ggtgcaaatc gtcacctgca tcatctggct ctacaccgcg 2700
cctccctcca gctacaggaa ccatgagctg gaggacgagg tcatcttcat cacctgcgac 2760
gagggctcgc tcatggcgct gggcttcctc atcggctaca cctgcctcct cgccgccatc 2820
tgcttcttct tcgccttcaa gtcccgtaag ctgccggaga acttcaacga ggctaagttc 2880
atcaccttca gcatgttgat cttcttcatc gtctggatct ccttcatccc cgcctatgtc 2940
agcacctacg gcaagtttgt gtcggccgtg gaggtgattg ccatcctggc ctccagcttc 3000
gggctgctgg gctgcattta cttcaacaag tgttacatca tcctgttcaa gccgtgccgt 3060
aacaccatcg aggaggtgcg ctgcagcacg gcggcccacg ccttcaaggt ggcggcccgg 3120
gccaccctcc ggcgcagcgc cgcgtctcgc aagcgctcca gcagcctgtg cggctccacc 3180
atctcctcgc ccgcctcgtc cacctgcggg ccgggcctca ccatggagat gcagcgctgc 3240
```

FIG. 28A

```
agcacgcaga aggtcagctt cggcagcggc accgtcaccc tgtcgctcag cttcgaggag 3300
acaggccgat acgccaccct cagccgcacg gcccgcagca ggaactcggc ggatggccgc 3360
agcggcgacg acctgccatc tagacaccac gaccagggcc cgcctcagaa atgcgagccc 3420
cagcccgcca acgatgcccg atacaaggcg gcgccgacca agggcaccct agagtcgccg 3480
ggcggcagca aggagcgccc cacaactatg gaggaaacct aatccaactc ctccatcaac 3540
cccaagaaca tcctccacgg cagcaccgtc gacaactgac atcaactcct aaccggtggc 3600
tgcccaacct ctcccctctc cggcactttg cgttttgctg aagattgcag catctgcagt 3660
tccttttatc cctgattttc tgacttggat atttactagt gtgcgatgga atatcacaac 3720
ataatgagtt gcacaattag gtgagcagag ttgtgtcaaa gtatctgaac tatctgaagt 3780
atctgaacta ctttattctc tcgaattgta ttacaaacat ttgaagtatt tttagtgaca 3840
ttatgttcta acattgtcaa gataatttgt tacaacatat aaggtaccac ctgaagcagt 3900
gactgagatt gccactgtga tgacagaact gttttataac atttatcatt gaaacctgga 3960
ttgcaacagg aatataatga ctgtaacaaa aaaattgttg attatcttaa aaatgcaaat 4020
tgtaatcaga tgtgtaaaat tggtaattac ttctgtacat taaatgcata tttcttgata 4080
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaagcgg cccgacagca acgg       4134
```

FIG. 28B